

Black River Elk Range (BRER) Herd Update

January – December 2018

Local Relocation

During the early winter period of 2017/18, four adult cows and one calf living outside the BRER were successfully capture and re-united with other elk in the BRER. In anticipation of such activities, a two-acre acclimation pen was built on the Jackson County Forest in the fall of 2017. All five elk were held together for six weeks before their release in March. Within several weeks they reunited with a small cow/calf group and have remained together through the remainder of 2018. Trapping and relocation has proven to be a useful tool during the early stages of the BRER reintroduction and may be used in the future for management purposes.

Winter trapping/collaring

Following the relocation trapping of the isolated cows, elk project staff, partners, and volunteers conducted winter trapping efforts to replace failed radio collars and to collar any uncollared elk. Despite poor trapping conditions during February and March, staff were able to collar nine elk including two adult bulls, four adult cows, and three calves not collared during the spring calf search effort. One of the calves captured was estimated to have been born in October 2017, survived the winter, and remains alive today! Winter capture and collaring will be needed each winter to replace failed or dropped collars for the next several years, and staff remain committed to maintaining radio collars on as many elk as possible during the early stages of the reintroduction to monitor elk movements, survival, habitat use, and conflict potential.

Spring calf collaring

To monitor the herds productivity, calf survival, and population growth, collaring newborn calves continues to be a priority tool used in the BRER. Breeding age cows were monitored daily using GPS locations between mid-May and the end of June to gauge birthing activity. Based on their age and location during the 2017 fall breeding season of 25 adult cows in the herd, 15-20 calves were expected to be born in 2018. With the help of approximately 100 dedicated volunteers, DNR staff were able to successfully locate and collar ten calves between May 22nd and June 17th, with peak births occurring during the first week of June. Based on observations and trail camera images, an additional six uncollared calves have been documented as of December 2018, confirming a minimum of 16 calves born in 2018. And all have survived! Of the ten calves collared, only two were females. The calf weights ranged from 35 to 52 pounds at time of capture, with an average weight of 41 lbs. This high birth weight indicates both calves and cows are in excellent physical condition.

One young cow suspected of being pregnant but did not give birth during the normal calving period, moved away from the herd in early October and was suspected to be making a movement indicative of calving. The first-time mother was indeed pregnant and attempting to give birth but was unable to successfully pass the large calf and died. This would have been the second October-born calf in two successive years.

One of the highlights of this year's calving season was the birth of a calf to a cow that was born in the quarantine pen in 2015. Thus, we had our first calf born to a cow that was born in Jackson Co. What makes the story even more significant is that this cow survived a prolonged battle with meningeal worm, survived, and has gone on to produce her healthy calf.

Population growth

With the addition of sixteen calves to the herd in 2018, the BRER population peaked at approximately 67 elk. The herd peaked at approximately 64 in 2017 and 65 in 2016. Thus, the population has remained stable over the previous two years. Multiple mortality events have limited significant population growth during the early phase of this reintroduction, which is to be expected. During 2018, 11 mortality events were documented including vehicle collisions (4), illegally harvest (2), birthing complications (1), pneumonia (1), fight wounds (1), euthanasia (1), and unknown (1). Since elk arrived in 2015, vehicle collisions have become the leading overall cause of mortality, followed by poor health/parasites (meningeal worm, pneumonia, E. coli, bacterial infection), and predation. No predation events have been documented since January 2017.

The herd experienced its first illegal harvests when two elk were shot during the gun deer season. The meat from these mortalities, as well as any other mortality where the meat is deemed appropriate for human consumption, is provided to local food pantries to help those in need.

The current population estimate (maximum) is 61 elk as of December 2018. This compares to 56 elk in December 2017. Calf production is expected to improve slightly in 2019, as all breeding age cows were documented to be with bulls during the 2018 rut. Depending on survival during the winter/spring of 2019, the population may reach 70+ individuals post-calving.

Research

UW-Stevens Point master's degree student Travis Bryan concluded his elk research in early 2018. His research was the first formally conducted on the Black River elk herd and focused on identifying the home range, release site fidelity, and resource selection patterns of the reintroduced elk. The following is a brief summary of the results:

Within the first three months of release, the mean maximum distance traveled from the release site was 6 miles and increased to 17 miles by 12 months after release. Although most elk made exploratory movements immediately after release, most elk returned to the release site within several weeks of release. Thus, site fidelity was high during the initial post-release period but decreased with the onset of winter each year. Adult cows without calves traveled the greatest distances while maternal females traveled the least distance from the release site. The longest distance traveled by one elk was 107mi. Home range sizes of the elk released in 2015 and 2016 were shown to vary between 0.7 square miles to 4.9 square miles, with the smallest home ranges occurring 61-90 days after release and the largest occurring 181-365 days after release. Male home range sizes were, on average, 0.5 square miles larger than females, and no differences were noticed with age.

Travis also found that Black River elk generally selected for grassland, oak, and crop cover types during all seasons, and selected against cranberry marshes, wetland, and shrubland. Conifer, hardwoods, aspen, and mixed forest were used at times throughout the year, but no strong selection or avoidance trends were documented. After the initial release period, elk did not avoid areas near roadways or human development. In addition, elk did not select against areas of high wolf activity, except during winter months.

Habitat Management

Elk project staff and partners continue to add and improve highly beneficial elk habitat thorough the BRER. Five active projects funded by Rocky Mountain Elk Foundation (RMEF) were underway in 2018, all with a primary goal of improving early successional habitat through prescribed fire, planting, and

invasive species control. Highlights include a large complex of openings on the Jackson County Forest situated within the core area of the largest cow calf group; a private lands program that has resulted in six landowners planting 52 acres of highly attractive elk forage that historically was not available to elk; and plans for prescribed burns on over 700 acres of prime habitat in 2019. In addition, WDNR and Jackson County Forestry and Parks have partnered to control invasive plants on one of the most diverse barrens-type landscapes in Wisconsin and is regularly used by the BRER elk herd.

To further secure future habitat management and public recreational opportunities, RMEF and Jackson County Forestry and Parks have partnered to purchase two properties from private individuals totaling 650 acres that will be added to the Jackson County Forest and open for public use.

Combined, these reintroduction efforts, habitat management practices, and land acquisition opportunities created a unique opportunity for RMEF to host their annual Habitat Council Tour on the BRER in June 2018. This tour brought RMEF leadership and major donors to WI to highlight Wisconsin's reintroduction efforts and partnerships.